

Mumbai University

Question Paper



NETWORK SECURITY

B.Sc.IT: Semester – V
November – 2015

Time: 2 ½ Hours**Total Marks:** 75**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) List and Explain various principles of security. (5)
- (B) Encrypt the message "Come Home Tomorrow" using (5)
- Ceaser Cipher
 - Simple Columnar Transposition Techniques with the four columns. Order is 4, 2, 1, 3.
- (C) Explain with the example Rail-Fence Transposition Technique. (5)
- (D) Write the Diffie-Hellman Key Exchange Algorithm. Also give Suitable example. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the Electronic Code Book and Cipher Feedback Algorithm Modes. (5)
- (B) Explain with neat diagram working of DES Algorithm. (5)
- (C) Write the steps carried out for each round of IDEA. (5)
- (D) Explain the working of RC4 Algorithm. (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the concept of Digital Signature. (5)
- (B) What is Message Digest? Explain with suitable example. (5)
- (C) Explain the working of Secure Hash Algorithm. (5)
- (D) Write the step involved in RSA Algorithm. (5)

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write the steps to create a Digital Certificate. (5)
- (B) Explain the Concept of Roaming Certificate. (5)
- (C) Differentiate between Simple Certification Protocol and Online Certificate Status Protocol. (5)
- (D) List and Explain different categories of Certificates types. (5)

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) List Phases in Handshake Protocol. Explain each in brief. (5)
- (B) Differentiate between Secured Socket Layer and Transport Layer Security. (5)
- (C) List the various Firewall Configurations. Explain any two. (5)
- (D) Write a short note on Virtual Private Network. (5)

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What do you mean by Authentication Token? Explain how it works. (5)
- (B) Explain how Time Based Token works? (5)
- (C) How does Certificate-based Authentication Work? (5)
- (D) Explain the Working of Kerberos. (5)

[TURN OVER]

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) List and Explain different types of Criminal Attacks. (5)
 - (B) Explain the Subkey Generation Part of Blowfish. (5)
 - (C) Explain Knapsack Algorithm with suitable example. (5)
 - (D) Write and Explain the PKIX Services. (5)
 - (E) Explain types of Electronic Money Based on the Tracking of Money. (5)
 - (F) What are the One-Way Authentication Approach's? Explain any two. (5)
-

Mumbai University

Question Paper



ASP.NET WITH C#

B.Sc.IT: Semester – V
November – 2015

Time: 2 ½ Hours**Total Marks:** 75

- N.B.:** (1) All Question are Compulsory.
(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.
(3) Answer To The Same Question Must Be Written Together.
(4) Number To The Right Indicates Marks.
(5) Draw Neat Labeled Diagrams Wherever Necessary.
(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Define each of the following terms: (5)
(i) *Derived Class*
(ii) *Abstract Class*
(iii) *Static Class*
(iv) *Sealed Class*
(v) *Partial Class*
- (B) Explain Reference Parameter with example. (5)
(C) What is a Jagged Array? Explain with example. (5)
(D) Explain Method Hiding with example. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain foreach loop with proper syntax and example. (5)
(B) What are the various stages in ASP.NET Page Lifecycle? Arrange the following Page Lifecycle Events in correct sequence in which they are raised. (5)
(i) *Unload*
(ii) *PreRender*
(iii) *Init*
(iv) *Load*
(v) *SaveStateComplete*
(vi) *InitComplete*
- (C) What is Delegates? Explain Delegate declaration and Delegate instantiation with example. (5)
(D) Explain about External Style Sheet and its advantages. How would you link an HTML Page to an External Style Sheet? (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain any five Common properties of Web Server Controls. (5)
(B) What is the scope of protected Data Members of a class? Explain Method Overloading with example. (5)
(C) When is CheckedChanged Event of a Check Box fired? (5)
Describe the following properties:
(a) *GroupName property of a Radio Button*
(b) *Text property of a Label*
(c) *TextMode property of a Text Box*
(d) *Checked property of a Radio Button*
- (D) Explain the similarities and differences between List Box and Drop-Down List. (5)

[TURN OVER]

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write short descriptions for the following: (5)
(i) *Session State Variables*
(ii) *SiteMapPath Control*
- (B) What are the advantages of a Master Pages? Explain about ContentPlaceHolder's in Master Pages. (5)
- (C) What is RangeValidator? Describe any four properties of it. (5)
- (D) What are the advantages and disadvantages of using Cookies? Explain how server sets a Cookie and retrieves it. (5)

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain about SqlConnection and SqlCommand Classes. (5)
- (B) What is GridView Control? Explain how to enable Row Selection, Paging and Sorting features of GridView. (5)
- (C) Briefly explain FormView Control. How is it different from DetailsView? (5)
- (D) Write short notes on Data Reader and Data Adapter. (5)

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What are the benefits using AJAX? Explain about UpdatePanel and ScriptManager. (5)
- (B) Write jQuery program that changes the background color of a paragraph to red and font color to yellow when mouse enters over it. Also set the background color to white and font color to black when mouse leaves the paragraph. (5)
- (C) Explain LINQ to Objects with an example. (5)
- (D) Explain the Query Operators SELECT, FROM, ORDERBY and WHERE in LINQ. (5)

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) What are the rules in defining a Constructor? Explain Static Constructor with example. (5)
- (B) What is a CSS Selector? Explain Class Selector and Grouped Selector with example. (5)
- (C) What is Code-Behind Model in ASP.NET? How is it different from Single File Model? (5)
- (D) Explain URL Encoding in detail. (5)
- (E) What is a Data Source? Explain various types of Data Sources in ASP.NET. (5)
- (F) Explain LINQ to SQL with the help of a Query that performs equijoin. (5)
-

Mumbai University

Question Paper



SOFTWARE TESTING

B.Sc.IT: Semester – V
November – 2015

Time: 2 ½ Hours**Total Marks:** 75**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Discuss the Correlation between “the cost of finding and fixing defects” and “software development life cycle phases”. (5)
- (B) What is Software Testing? Discuss objectives of testing. (5)
- (C) Explain Fundamental Test Process. (5)
- (D) If we don't find defects does that mean the users will accept the software? Discuss. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Discuss the characteristics of Good Testing. (5)
- (B) Explain the two Vs of Software Testing (Verification and Validation). (5)
- (C) Explain briefly the four test levels used in V-Model of Software Testing with their objectives. (5)
- (D) Describe the purpose of Confirmation Testing and Regression Testing. (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What is Static Testing? What is its main objective? Summarize advantages of using Static Testing on Software work products. (5)
- (B) Mention six main steps of a Typical Formal Review Process. Discuss the proceedings of a “Review Meeting”. (5)
- (C) Define the following terms: (5)
- (i) Cyclomatic Complexity
 - (ii) Data Flow
 - (iii) Control Flow
 - (iv) Entry Criteria
 - (v) Exit Criteria
- (D) Discuss success factors for reviews. (5)

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Define “Test Condition”? Describe the purpose of identifying test conditions. (5)
- (B) What is the meaning of “Traceability” in Software Testing? Why is traceability important? (5)
- (C) Explain briefly, different types of Software Testing Techniques. (5)
- (D) If you hold an ‘over 60s’ rail card, you get a 34% discount on whatever ticket you buy. If you are travelling with a child (under 16), you can get a 50% discount on any ticket if you hold a family rail card, otherwise you get a 10% discount. You can only hold one type of rail card. Produce a decision table showing all the combinations of fare types and resulting discounts and derive test cases from the decision table. (5)

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Define “Test Plan”. Why do we write Test Plan? (5)
- (B) Write a short note on “Test Monitoring”. (5)
- (C) How Configuration Management supports testing? (5)
- (D) Explain Incident Report Life Cycle. (5)

[TURN OVER]

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Classify different types of test tools according to the test process activities. (5)
- (B) Explain the features and characteristics of Incident Management Tools. (5)
- (C) Discuss the potential benefits of using tools in Software Testing. (5)
- (D) State the goals of a Proof-Of-Concept or Piloting Phase for tool evaluation. (5)

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) "Degree of independent testing avoids author bias and is often more effective at finding defects and failure". Explain. (5)
 - (B) Explain the significance of stubs and drivers with help of example. (5)
 - (C) What are the main Review Types? Explain briefly main characteristics and objectives of Inspection. (5)
 - (D) Write a short note on Test Coverage. (5)
 - (E) Describe tasks to be performed by Test Leaders and Testers. (5)
 - (F) Define the following terms: (5)
 - (i) *Probe-effect*
 - (ii) *Heizenbugs*
 - (iii) *Test Script*
 - (iv) *Web-spider*
 - (v) *Dynamic Comparator*
-

Mumbai University

Question Paper



ADVANCED JAVA

B.Sc.IT: Semester – V
November – 2015

Time: 2 ½ Hours**Total Marks:** 75**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the use of Adapter Classes with suitable example. (5)
- (B) Explain the Event Delegation Model. (5)
- (C) Write AWT based Java program that will read a string from user and display the number of characters in the string. (5)
- (D) List various Event Listener interfaces. Explain any two. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write a Java program using Swing components that displays table containing employee information. (5)
- (B) What is use of JColorChooser? Write down the Constructors and Methods of the same. (5)
- (C) Write a Java program using Swing components to display Tabbed Pane with three tabs for First for First Year, Second for Second Year and Third for Third Year. Every tab displays a list of all subjects of the respective years. (5)
- (D) Explain JTree with example. (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the ServletRequest and ServletResponse interface of Servlet. (5)
- (B) Write a Servlet programs to display the factorial of a given number. (5)
- (C) What is Servlet? What are different tasks carried out by servlets? (5)
- (D) List various classes of Servlets API. Write the purpose of each. (5)

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What are the disadvantages of JSP? Explain. (5)
- (B) List various directives of JSP. Explain any two. (5)
- (C) List and explain different types of JDBC Drivers. (5)
- (D) Write the purpose of the following JDBC Classes: (5)
 - (i) DriverManager
 - (ii) ResultSet
 - (iii) Statement
 - (iv) Connection
 - (v) PreparedStatement

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) List and explain various Phases of JSF Lifecycle. (5)
- (B) What is Facelet? Write the features of Facelet. (5)
- (C) Write the benefits of EJB. (5)
- (D) Write the code that defines Stateless Bean which converts an amount from one currency to another. (5)

[TURN OVER]

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What are Interceptors in Struts? Explain the execution flow of interceptors. (5)
- (B) With suitable diagram explain the Architecture of Hibernate. (5)
- (C) What is Value Stack? Explain. (5)
- (D) What is the purpose of Hibernate Mapping File? (5)

Write the Hibernate Mapping File that maps the application to the table GuestBook of GuestBook database, GuestBook table contains the columns VisitorNo (Unique) Integer, VisitorName varchar(75), VisitorMessage varchar(100), MessageDate varchar(20).

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) Write AWT based Java program that demonstrate the use of Checkbox and Radiobuttons. (5)
- (B) Write a Java program using Swing Components to divide the window into two horizontal Windows. (5)
First window displays a text box, a label and a button, Textbox is used to accept a number from user. When user clicks on button the table of the number is displayed in second window.
- (C) What is the purpose of WB-INF file? Explain. (5)
- (D) Explain the Request and Response Implicit Objects of JSP. (5)
- (E) List and explain different types of Enterprise Beans. (5)
- (F) What is the use of Action Component of Struts? Write and explain roles of Action Component. (5)
-

Mumbai University

Question Paper



LINUX

ADMINISTRATION

B.Sc.IT: Semester – V
November – 2015

Time: 2 ½ Hours**Total Marks:** 75**N.B.:** (1) All Question are Compulsory.

(2) Make Suitable Assumptions Wherever Necessary And State The Assumptions Made.

(3) Answer To The Same Question Must Be Written Together.

(4) Number To The Right Indicates Marks.

(5) Draw Neat Labeled Diagrams Wherever Necessary.

(6) Use of Non – Programmable Calculator is allowed.

Q.1 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) What do you mean by Boot Loader? Explain GRUB. (5)
- (B) List duties of System Administration. Explain any two. (5)
- (C) What is RAID? Explain. (5)
- (D) Write the steps required to Boot System. (5)

Q.2 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write a short note on cron files. (5)
- (B) What is NFS? Explain with example. (5)
- (C) List various network configuration files. Write the purpose of each. (5)
- (D) Explain the concept of Subnetting with suitable example. (5)

Q.3 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the Home Section of samba configuration file. (5)
- (B) Write the steps to configure Time Server. (5)
- (C) What is Caching Proxy Server? Why is used. (5)
- (D) Explain how to configure samba server. (5)

Q.4 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write the purpose of following less secure services: (5)
 - (i) telnet
 - (ii) ftp
 - (iii) rlogin
 - (iv) finger
 - (v) ftp
- (B) What is SSH? Explain with suitable example. (5)
- (C) What is the need of Domain Name System? List the configuration files used by DNS. Write the purpose of each. (5)
- (D) What is zone file? Explain with suitable example. (5)

Q.5 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Write several key configurations that are essential for email to work properly. (5)
- (B) What is the difference between IMAP and POP3? (5)
- (C) List ftp Configuration Files. Write purpose of each. Give suitable example. (5)
- (D) Explain how to disable anonymous FTP. (5)

[TURN OVER]

Q.6 ATTEMPT ANY TWO QUESTIONS: (10 MARKS)

- (A) Explain the useradd command with example. (5)
- (B) Explain how Web Server work. (5)
- (C) Write the purpose of the following configuration directives of apache: (5)
- (i) *KeepAlive*
 - (ii) *Listen*
 - (iii) *MaxClients*
 - (iv) *MaxRequestsPerChild*
 - (v) *StartServers*
- (D) How the output of rpmquery is formatted? Explain with example. (5)

Q.7 ATTEMPT ANY THREE QUESTIONS: (15 MARKS)

- (A) List the directories that the / directory must contain. Write purpose of any four. (5)
- (B) What is DHCP? Write steps to configure a DHCP Client. (5)
- (C) List NTP utility programs. Write purpose of any four. (5)
- (D) List the types of Domain Name Servers. Explain each. (5)
- (E) Write the purpose of following vsftpd configuration directives: (5)
- (i) *anonymous_enable*
 - (ii) *write_enable*
 - (iii) *ftpd_banner*
 - (iv) *banned_email_file*
 - (v) *local_unmask*
- (F) Which command is used to change the expiration policy for a user's password? Explain with example. (5)
-